Climate Testbed Response to 4th NOAA Climate Prediction Applications Science (CPAS) Workshop

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Overview of CPAS Workshop

Purpose:

- To bring together a diverse group of climate science producers and users to discuss developments in research and applications related to the use of climate predictions on societal decision-making & resource management.

Goals:

- To identify new climate prediction applications research;
- To promote interactions between research and service communities, and
- To assess impacts of climate forecasts on environmental-societal interactions.

The workshop did not address technical challenges of making climate predictions or climate modeling.

What CTB Showed at CPAS Workshop

Science Priorities:

- Climate Forecast System Improvements
- Multi-Model Ensemble Prediction System
- Climate Reanalysis – An Ongoing Analysis of the Climate System
- Climate Forecast Products for Decision Support

Mission: To accelerate the transition of scientific advances from the climate research community to improved NOAA climate forecast products and services.

Climate Forecast Products for Decision Support

Objective:

- Increase number and use of NOAA climate forecast products and services to enhance decision making

Current CTB activities:

- Consolidation of multi method seasonal forecasts to optimize skill (skill masks, objective tools, objective verification)
- Drought monitoring & prediction
- Regional hydrologic products
- Enhanced CPC-CTB-CSD partnership to identify, develop and deliver new & improved climate forecast products

CTB Strategy

Vision: To significantly increase the number and skill of NOAA's operational climate forecast products. This involves accelerating improvements in the fully coupled NOAA Climate Forecast System and other Earth system models within the framework of a multi-model ensemble system. It also involves working with the applications community to provide new and improved climate forecast products that enhance decision making.

Mission: To accelerate the transition of scientific advances from the climate research community to improved NOAA climate forecast products and services.

What are the NCEP Programmatic Priorities for improved climate prediction?

1) NOAA/NCEP Climate Forecast System Improvements
2) Multi-Model Ensemble Prediction System
3) Climate Reanalysis – An Ongoing Analysis of the Climate System
4) Climate Forecast Products for Decision Support

Note:

- Improvements in climate prediction depend on a balance of new and existing resources dedicated to these priorities that target potential and provide historical reference.
- Accelerating improvements in climate prediction requires a simultaneous attack from both short-term weather and long-term climate models.
- The CTB is not (and cannot be) active in all of these areas: priorities will be developed and evolve over time as outlined in the implementation strategy.

Scientific Partnerships

- Move to University of Maryland M-Square Campus;
- Engage cooperative institutes (e.g. CICS, ESSIC), other agencies (e.g. NASA, DOE), and National & International Programs (e.g. CLIVAR, GEWEX);
- Enhance CPC-CTB-CSD-intermediary partnerships to collect and meet user requirements for incorporating NOAA's climate forecast products and services into decision making;
- Synergism with other NOAA Testbeds (e.g. Hydrology; JCSDA);
- Invite broad participation on CTB boards and teams;
- Participate in national meetings & topical workshops.

What we heard from the CPAS community

Enhanced CPC-CTB-CSD Partnership

- The CPAS community would like to play an active role

Climate Test Bed

- CTB resources are limited, so how can the CTB partner with a diverse user community?

Suggestions for CPC and CTB

- Create a listserv for a regular email round-table with intermediaries
- Participate in monthly RISA conference calls
- Set up an Advisory Board with key people from RISA projects

How CTB can respond

- Engage the CTB Transition Project Teams to work with CSD & other intermediaries to identify, develop, and deliver new and improved climate forecast products for decision support. New NTOP.
  - Near term Product Improvements
- Invited CPASW attendees (via sign-up) to partner with CTB. Follow-up required.
- Continue to invite broad participation on CTB boards and teams.
- Expand CTB participation in topical workshops with the applications community.

Product Improvements

- Improve and strengthen basic predictand products
  - Increase temporal & spatial granularity of mean T & P fcsts;
  - Develop graphics that are easily modified (e.g. GIS) with value-added info for application to local needs;
- Verification Statistics
  - Actual & expected performance of existing forecast products (6-10 day, week 2, monthly & seasonal forecasts) and tools;
  - Use to evaluate skill of potential new products

Potential New Products

- Risks of high-impact weather events in a month or season by ENSO phase:
  - Types: heavy snow, damaging winds, beach erosion, freezes;
  - Engage emergency managers, state planners, and others to vet products;
  - Determine if current models can capture these shifts;
  - Tap local expertise to develop predictands empirically.
- Products related to mean temperature and precipitation where the relationships are non-linear and testing is required.

The CTB "Message" to CPAS Workshop Participants

- A consensus on product improvements & new products is needed.
- CPASW community participation in this process is critical.

We want to transition your ideas about products that will have demonstrable utility for decision makers into CPC forecast operations.

Give us your name and address if you would like to be kept informed about how to become a CTB partner.

Visit the CTB website http://www.cpc.ncep.noaa.gov/products/ctb
Contact us at wayne.higgins@noaa.gov